

## Japanese Spiders of the Genus *Larinia* SIMON (Araneae: Araneidae)

Akio TANIKAWA<sup>1)</sup>

谷川 明男<sup>1)</sup>: 日本産コガネグモダマシ属のクモ類

**Abstract:** Six species of the spider genus *Larinia* (Araneidae) are reported from Japan. Of these, three species, *L. phthisica* (L. KOCH, 1871), *L. fusiformis* (THORELL, 1877) and *L. jeskovi* MARUSIK, 1986, are newly recorded from this country, and two are new to science and are described under the names, *L. sekiguchii* and *L. onoi*. The only species hitherto known from Japan, *L. argiopiformis* BÖSENBERG et STRAND, 1906 is redescribed.

After the species of the spider genus *Larinia* and its related groups were revised world-wide by GRASSHOFF (1970a, b, c, 1971), the American species were reported by LEVI (1975), the species of USSR were described by MARUSIK (1986), and LEVY (1986) redescribed the species from Israel.

In Japan, only the species, *L. argiopiformis* BÖSENBERG et STRAND, 1906, has been known up to the present. However, after an examination of the specimens collected from various parts of Japan, I recognized six species of the genus occurring in this country, which will be described in the present paper. Of these species, *L. phthisica* (L. KOCH, 1872), *L. fusiformis* (THORELL, 1877) and *L. jeskovi* MARUSIK, 1986, are new to the Japanese fauna, and two species are new to science.

GRASSHOFF (1970a, b, c, 1971) split the *Larinia* complex into eight genera. LEVY (1986) accepted his classification. LEVI (1975) regarded them as subgenera, and used *Larinia* in its broad sense, MARUSIK (1986) followed LEVI's concept. In this paper, I will use *Larinia* as a genus in the broadest sense and without subdivision.

All the type specimens designated in this paper are deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo.

The abbreviations used in this paper are as follows: ALE, anterior lateral eye; ALE-PLE, distance between ALE and PLE; AME, anterior median eye; AME-AME, distance between AMEs; DM, diameter; L, length; MOA, median ocular area; PLE, posterior lateral eye; PME, posterior median eye; PME-PME, distance between PMEs; W, width; WA, anterior width of MOA; WP, posterior width of MOA.

1) Noba Senior High School, 1660, Noba-chô, Kônan-ku, Yokohama-shi, Kanagawa, 233 Japan  
神奈川県立野庭高等学校 〒233 横浜市港南区野庭町 1660

Genus *Larinia* SIMON, 1874, s. lat.

[Japanese name: Koganegumodamashi-zoku]

- Larinia* SIMON, 1874, Arachn. de France, 1: 115.—LEVI, 1975, Bull. Mus. comp. Zool., 147: 102-105.—MARUSIK, 1986, Spixiana, 9: 245-246.
- Lipocrea* THORELL, 1878, Ann. Mus. civ. Stor. nat. Genova, 13: 6.—LEVY, 1986, Bull. Br. arachnol. Soc., 7: 5-6.
- Drexelia* MCCOOK, 1892, Proc. Acad. nat. sci. Philadelph., 1892: 127.—GRASSHOFF, 1971, Senckenbergiana biol., 52: 81-82.—LEVY, 1986, Bull. Br. arachnol. Soc., 7: 8.
- Kilima* GRASSHOFF, 1970, Senckenbergiana biol., 51: 122-123.
- Larinopa* GRASSHOFF, 1970, Senckenbergiana biol., 51: 226-227.
- Siwa* GRASSHOFF, 1970, Senckenbergiana biol., 51: 409.—LEVY, 1986, Bull. Br. arachnol. Soc., 7: 1-3.
- Paralarinia* GRASSHOFF, 1970, Senckenbergiana biol., 51: 411.
- Faradja* GRASSHOFF, 1970, Senckenbergiana biol., 51: 416-417.
- Mahembea* GRASSHOFF, 1970, Senckenbergiana biol., 51: 418.
- Lariniaria* GRASSHOFF, 1970, Senckenbergiana biol., 51: 421.

Diagnosis. Carapace longer than wide, with vertical median fovea; AMEs the largest, separated by more than one diameter from each other; PMEs very close to each other; MOA longer than wide, about twice as wide in front as behind; ALE and PLE almost adjoining. Labium wider than long. Sternum longer than wide. Leg formula 1-2-4-3. Male palpal patella with two long macrosetae. Abdomen longer than wide.

Remarks. Under this Genus, about 80 species were described mainly from tropical and temperate zones of all over the world. But about 30 species of these have been synonymized or transferred to other genera. So about 50 species are known at present (ROEWER, 1942; BONNET, 1957; GRASSHOFF, 1970a, b, c, 1971; LEVI, 1975, TIKADER & BISWAS, 1981; LEVY, 1986; MARUSIK, 1986; PLATNICK, 1989).

**Key to the Japanese Species**

1. Cephalothorax marginated with gray..... 2
  - Cephalothorax not marginated with gray..... 3
2. Sternum uniformly dark gray, without marking; scape of epigynum wrinkled....
  - ..... *Larinia onoi*
  - Sternum with yellowish marking; scape of epigynum short and triangular ....
    - ..... *L. jeskovi*
3. Venter of abdomen with a V-shaped dark coloured marking ..... 4
  - Venter of abdomen without such a marking ..... 5
4. Dorsum of abdomen with six pairs of small black spots besides muscle impres-

- sions; cephalothorax with a gray median band widened at the posterior part of cephalic region; scape of epigynum small and labiate .....*L. fusiformis*  
 — Dorsum of abdomen without black spots, or rarely with two rows of black spots larger than those in the former species; cephalothorax with a pair of vertical lines behind PME, and rarely with gray marking as same as in the former species; scape of epigynum much wide and triangular— .....*L. argiopiformis*  
 5. Dorsum of abdomen with folium .....*L. sekiguchii*  
 — Dorsum of abdomen without folium .....*L. phthisica*

***Larinia argiopiformis* BÖSENBERG et STRAND, 1906**

[Japanese name: Koganegumodamashi]

(Figs. 1-7)

*Larinia argiopiformis* BÖSENBERG et STRAND, 1906, Abh. senckenb. naturf. Ges., 30: 212, pl. 15, fig. 423.—ROEWER, 1942, Kat. Aran., 1: 768.—BONNET, 1957, Bibl. Aran., 2(3): 2347.—SAITO, 1959, The Spider Book Illustrated in Colours, p. 101, pl. 15, fig. 121a, pl. 16, figs. 121b-121c.—YAGINUMA, 1986, Spiders of Japan in Colour, p. 115, fig. 60, pl. 31, fig. 3.—MARUSIK, 1986, Spixiana, 9: 251, figs. 22-24.—PLATNICK, 1989, Advances in Spider Taxonomy, p. 339.

*Larinia punctifera* BÖSENBERG et STRAND, 1906, Abh. senckenb. naturf. Ges., 30: 202, pl. 4, fig. 32, pl. 11, fig. 203.—ROEWER, 1942, Kat. Aran., 1: 769.—BONNET, 1957, Bibl. Aran., 2(3): 2351.—SAITO, 1959, The Spider Book Illustrated in Colours, p. 101-102, pl. 15, fig. 122a, pl. 16, figs. 122b-122d.

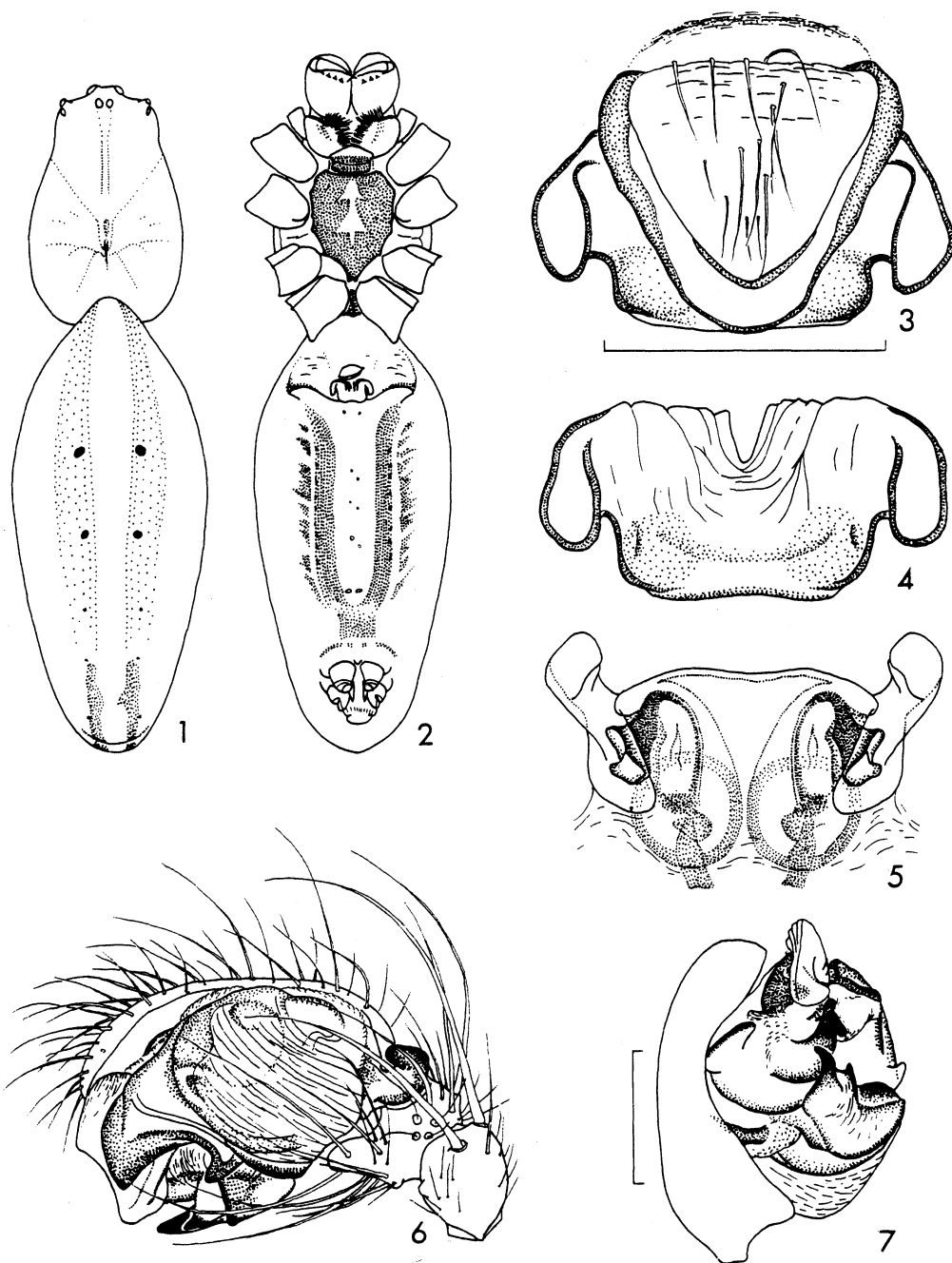
*Lariniaria argiopiformis*: GRASSHOFF, 1970, Senckenbergiana biol., 15: 421-423, fig. 29.

Description. Measurement. Body L ♀ 8.80-12.25 mm, ♂ 7.80 mm; carapace L ♀ 3.20-4.93 mm, ♂ 3.52 mm, W ♀ 2.13-3.27 mm, ♂ 2.28 mm; abdomen L ♀ 5.33-8.50 mm, ♂ 4.95 mm, W ♀ 2.53-4.00 mm, ♂ 2.08 mm; L of legs of 1 ♀ from Kanagawa Pref. and 1 ♂ from Miyagi Pref. as shown in Table 1.

**Table 1** Measurements on leg segments of *L. argiopiformis* Bös. et STR. (in mm; ♀/♂).

Leg	Tarsus	Metatarsus	Tibia	Petella	Femur	Total
I	1.65/1.50	4.60/4.88	3.90/4.00	2.15/2.13	4.00/3.95	16.30/16.46
II	1.50/1.38	4.00/4.10	3.60/3.83	2.05/1.90	3.95/3.85	15.10/15.06
III	1.03/0.83	1.87/1.70	1.82/1.63	1.30/1.10	2.73/2.50	8.75/ 7.76
IV	1.15/1.02	3.63/3.56	3.38/3.24	1.75/1.52	3.58/3.32	13.49/12.66

Carapace L/W ♀ 1.41-1.51, ♂ 1.54, AME-AME/AME ♀ 1.73-2.47, ♂ 2.11, PME-PME/PME ♀ 0.47-0.71, ♂ 0.62, ALE-PLE/ALE ♀ 0.46-0.64, ♂ 0.64, MOA L/W ♀ 0.74-0.86, ♂ 0.85, MOA WA/WP ♀ 1.78-2.06, ♂ 1.89, clypeus/AME ♀ 0.78-1.22, ♂



**Figs 1-7** *Larinia argiopiformis* BÖSENBERG et STRAND, 1906.—1. Cephalothorax and abdomen of female, dorsal view. 2. Same, ventral view. 3. Epigynum with scape. 4. Same without scape. 5. Female genitalia, posterior view. 6. Male palp, ventral view. 7. Same, prolateral view. (Scales: 0.5 mm.)

1.11. Chelicera with 4 promarginal and 3-4 retromarginal teeth. Labium L/W ♀ 0.75-0.88, ♂ 0.88, sternum L/W ♀ 1.48-1.60, ♂ 1.50. Tibia I DM/L ♀ 0.10-0.11, ♂ 0.08, leg I L/carapace L ♀ 4.01-4.29, ♂ 4.67.

Male palp (Figs. 6-7). Terminal apophysis flattened and semitransparent. Stipes apophysis keel-shaped.

Abdomen L/W ♀ 2.00-2.58, ♂ 2.39.

Female genitalia (Figs. 3-5). Scape of epigynum wide and triangular. Intromittent canal excurved in posterior view.

Coloration and markings. ♀ ♂: Carapace yellowish brown, with a pair of black vertical lines behind PMEs. Chelicera yellowish brown; maxillae yellowish brown, inner margin pale yellow; labium dark brown, distally white. Sternum dark brown, yellowish at the middle. Legs yellowish brown, frequently mottled with black. Dorsum of abdomen yellowish brown, with a median white band bordered with brown, frequently with two rows of black spots. Venter of abdomen with a median white band bordered by V-shaped dark brown marking.

Specimens examined. Izunuma, Hazama-chô, Tome-gun, Miyagi Pref., 1 ♀, 18-V-1986, 1 ♀, 1-VI-1986, 1 ♂, 5-V-1986 (subadult), 9-V-1986 (adult after breeding), A. TANIKAWA leg.; 1 ♀, Kisarazu, Chiba Pref., 20-IV-1973, K. KUMADA leg.; Maioka-chô, Totsuka-ku, Yokohama-shi Kanagawa Pref., 1 ♀, 17-VI-1983, 1 ♀, 29-X-1986, A. TANIKAWA leg.; 1 ♀, Mt. Ôgiyama, Ôtukishi, Yamanashi Pref., 12-X-1986 (subadult), 30-I-1986 (adult after breeding), A. TANIKAWA leg.; 1 ♀, Kokubu-chô, Suzuka-shi, Mie Pref., 11-VIII-1981, A. UYEMURA leg.

Distribution. Japan; USSR, Far East (MARUSIK, 1986); China (ZHU, 1983); Korea (PAIK & KIM, 1985).

### *Larinia fusiformis* (THORELL, 1877)

[Japanese name: Nettai-koganegumodamashi]

(Figs. 8-14)

*Meta fusiformis* THORELL, 1877, Ann. Mus. civ. Stor. nat. Genova, 10: 431.

*Larinia fusiformis*: ROEWER, 1942, Kat. Aran., 1: 770.—BONNET, 1957, Bibl. Aran., 2(3): 2349.

*Larinopa fusiformis*: GRASSHOFF, 1970, Senckenbergiana biol., 51: 231-233, figs. 15-16.

Description. Measurement. Body L ♀ 6.80-10.40 mm, ♂ 6.00-7.20 mm; carapace L ♀ 2.52-3.90 mm, ♂ 2.42-3.06 mm, W ♀ 1.60-2.40 mm, ♂ 1.67-1.87 mm; abdomen L ♀ 4.25-7.25 mm, ♂ 3.48-4.65 mm, W ♀ 1.75-3.00 mm, ♂ 1.32-1.80 mm; L of legs of 1 ♀ 1 ♂ from Iriomotejima Island, Okinawa Pref. as shown in Table 2.

Carapace L/W ♀ 1.57-1.67, ♂ 1.45-1.68, AME-AME/AME ♀ 1.48-2.69, ♂ 1.47-1.80, PME-PME/PME ♀ 0.31-0.67, ♂ 0.31-0.42, ALE-PLE/ALE ♀ 0.29-0.58, ♂ 0.21-0.42,

**Table 2** Measurements on leg segments of *L. fusiformis* (THORELL) (in mm; ♀/♂).

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	1.50/1.18	5.60/4.20	4.47/3.25	2.27/1.53	4.23/3.13	18.07/13.29
II	1.30/1.05	4.63/3.40	4.00/2.90	2.07/1.38	4.13/3.02	16.13/11.75
III	0.88/0.68	1.98/1.45	1.88/1.36	1.16/0.80	2.84/2.18	8.74/ 6.47
IV	1.00/0.80	4.15/2.90	3.58/2.52	1.60/1.07	4.28/3.12	14.61/10.41

MOA L/W ♀ 0.86–0.89, ♂ 0.69–0.84, MOA WA/WP ♀ 1.81–1.95, ♂ 1.87–2.00, clypeus/AME ♀ 0.50–1.23, ♂ 0.63–0.89. Chelicera with 4 promarginal and 3 retromarginal teeth. Labium L/W ♀ 0.74–0.82, ♂ 0.69–0.81, sternum L/W ♀ 1.45–1.56, ♂ 1.51–1.65. Tibia I DM/L ♀ 0.09–0.10, ♂ 0.07–0.08, leg I L/carapace L ♀ 4.36–4.82, ♂ 5.22–5.74.

Male palp (Figs. 13–14). Median apophysis projecting prolaterad. Terminal apophysis rostriform. Stipes apophysis keel-shaped.

Abdomen L/W ♀ 2.20–3.02, ♂ 2.58–2.94.

Female genitalia (Figs. 10–12). Scape of epigynum linguiform. Intromittent canal excurved in posterior view.

Coloration and markings. ♀: Carapace yellow, with a gray band widened at the posterior part of cephalic region. Chelicerae yellow; maxillae yellowish brown, inner margin white; labium brown, anterior margin white. Sternum brown, yellowish at the middle. Legs yellow, with small black spots. Dorsum of abdomen yellow, with a white median band bordered by pale brown stripes and six pairs of black spots. Venter of abdomen with a white median band bordered by a V-shaped black marking.

♂: Same as in female, excepting sternum yellow.

Specimens examined. Iriomotejima Island, Yaeyama Islands, Okinawa Pref.: 1♀, 18–VIII–1985, N. TANAKA leg.; 1♂, 26–III–1986, 5♀♀1♂, 29–III–1986, 3♀♀1♂, 1–I–1987, 1♀, 1–IV–1987, 1♀, 23–VIII–1987, 1♀ 2♂♂, 28–III–1988, 6♀♀, 29–III–1988, A. TANIKAWA leg.

Distribution. Japan (Iriomotejima Island); Burma, Vietnam, India (GRASSHOFF, 1970b).

### *Larinia phthisica* (L. KOCH, 1871)

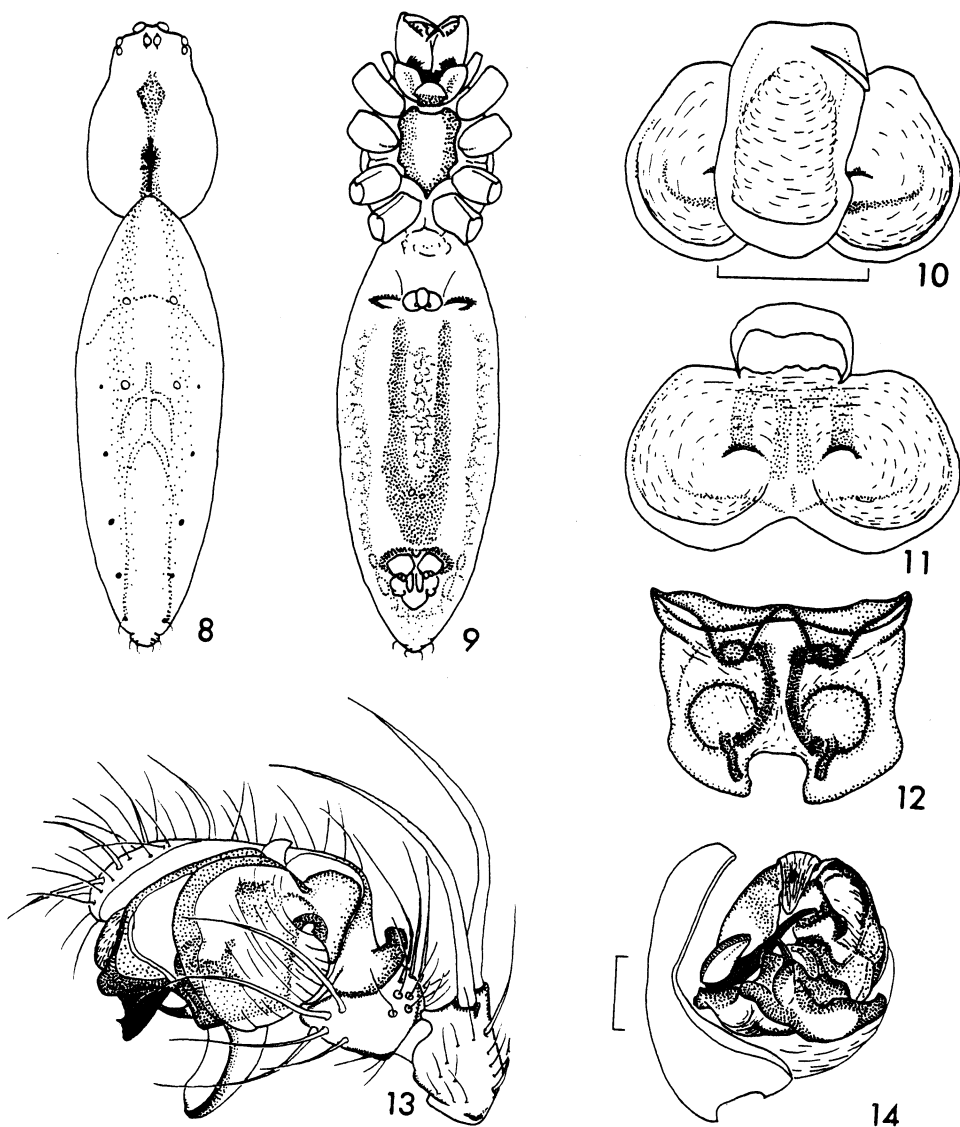
[Japanese name: Minami-koganegumodamashi]

(Figs. 15–21)

*Epeira phthisica* L. KOCH, 1871, Arachn. Austral., 1, p. 103, pl. 8, fig. 5.

*Larinia phthisica*: ROEWER, 1942, Kat. Aran., 1: 771.—BONNET, 1957, Bibl. Aran., 2(3): 2351.—CHRYSANTHUS, 1961, Nova Guinea, Zool., (10): 205, figs. 42–45.—PLATNICK, 1989, Advances in Spider Taxonomy, p. 339.

*Larinia phthisica* (s. str.): GRASSHOFF, 1970, Senckenbergiana biol., 51: 224–225, figs. 7–8.



**Figs. 8-14** *Larinia fusiformis* (THORELL, 1877).—8. Cephalothorax and abdomen of female, dorsal view. 9. Same, ventral view. 10. Epigynum with scape. 11. Same without scape. 12. Female genitalia, posterior view. 13. Male palp, ventral view. 14. Same, prolateral view. (Scales: 0.2 mm.)

**Description.** **Measurement.** Body L ♀ 7.30-12.00 mm, ♂ 5.47-6.00 mm; carapace L ♀ 2.78-3.60, ♂ 2.30-2.37 mm, W ♀ 1.70-2.28 mm, ♂ 1.40-1.50 mm; abdomen L ♀ 4.75-9.40 mm, ♂ 3.46-3.96 mm, W ♀ 1.90-3.05 mm, ♂ 1.22-1.52 mm. L of legs of 1♀1♂ from Iriomotejima Island, Okinawa Pref. as shown in Table 3.

**Table 3** Measurements on leg segments of *L. phthisica* (L. KOCH) (in mm; ♀/♂).

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	1.13/0.92	4.50/3.52	4.08/3.12	1.98/1.32	3.60/2.78	15.29/11.66
II	1.00/0.80	3.78/2.87	3.80/2.73	1.88/1.20	3.58/2.62	14.04/10.22
III	0.75/0.53	1.65/1.13	1.57/1.10	1.02/0.65	2.43/1.78	7.42/ 5.19
IV	0.75/0.60	3.40/2.47	3.20/2.23	1.45/0.93	4.08/2.85	12.88/ 9.08

Carapace L/W ♀ 1.58–1.64, ♂ 1.55–1.67, AME–AME/AME ♀ 1.48–2.50, ♂ 1.26–1.63, PME–PME/PME ♀ 0.43–0.80, ♂ 0.33–0.42, ALE–PLE/ALE ♀ 0.43–0.67, ♂ 0.36–0.67, MOA L/W ♀ 0.77–0.84, ♂ 0.79–0.86, MOA WA/WP ♀ 2.13–2.24, ♂ 1.97–2.15, clypeus/AME ♀ 0.67–1.14, ♂ 0.63–0.88. Chelicera with 4 promarginal and 3 retromarginal teeth. Labium L/W ♀ 0.80–0.85, ♂ 0.65–0.90, sternum L/W ♀ 1.65–1.73, ♂ 1.63–1.81. Tibia I DM/L ♀ 0.08–0.09, ♂ 0.06–0.07, leg I L/carapace L ♀ 4.24–4.83, ♂ 4.89–4.97.

Male palp (Figs. 20–21). Terminal apophysis rostriform. Stipes apophysis spiniform.

Abdomen L/W ♀ 2.50–3.08, ♂ 2.49–3.00.

Female genitalia (Figs. 17–19). Scape of epigynum slender. Intromittent canal short.

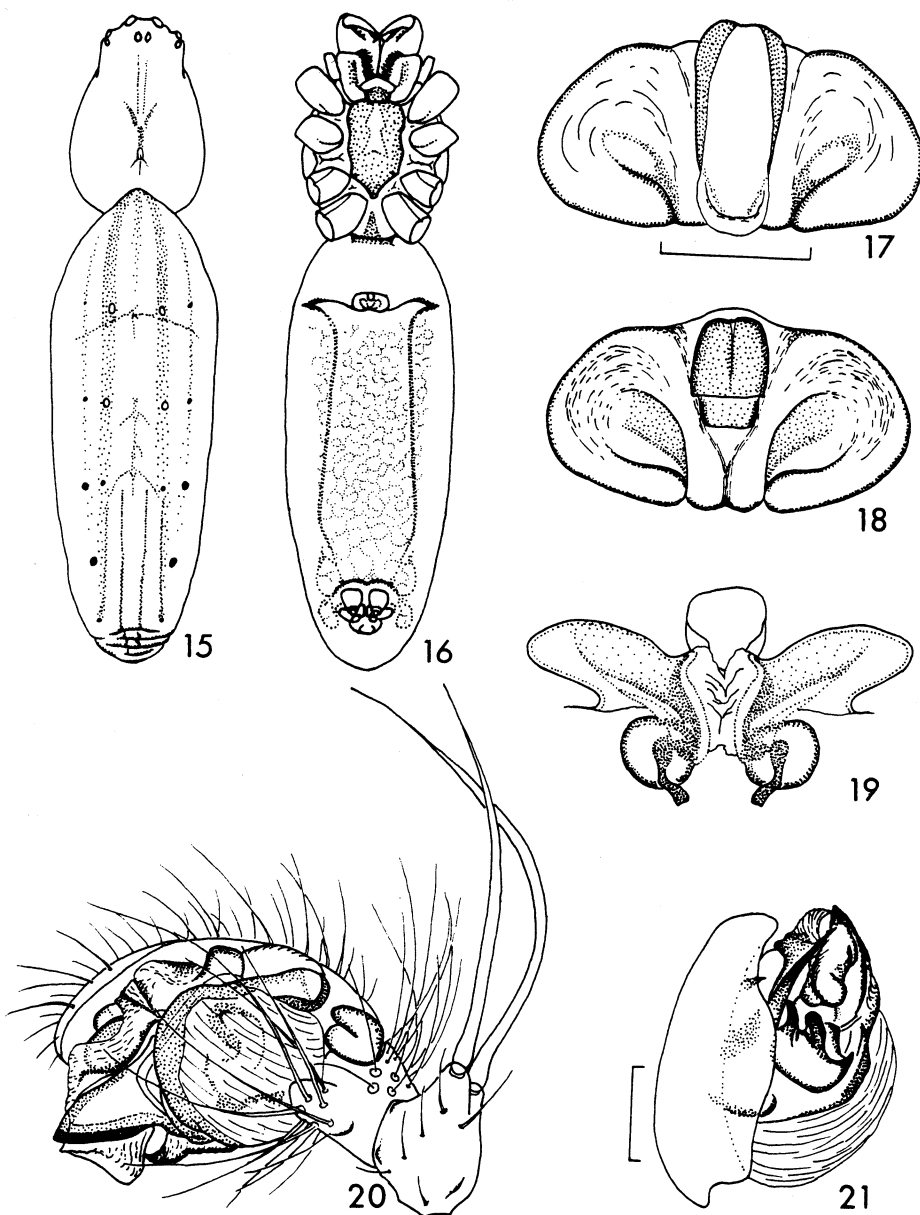
Coloration and markings. ♀: Carapace yellowish brown, with a pair of lines behind PME. Chelicerae yellow; maxillae yellowish brown, inner margin white; labium brown, anterior margin white. Sternum grayish brown, yellowish at the middle. Legs yellow. Dorsum of abdomen pale yellow, with brown lines and several black spots. Venter of abdomen with a white median band bordered by narrow brown lines between epigynum and spinnerets.

♂: Same as in female, excepting sternum yellow.

Specimens examined. Iriomotejima Island, Yaeyama Islands, Okinawa Pref., A. TANIKAWA. leg.: 1♀2♂♂, 28–XII–1986; 51♀♀24♂♂, 31–XII–1986; 1♀, 1–IV–1986; 1♀, 1–I–1987; 1♂, 4–I–1987; 5♀♀3♂♂, 28–III–1987; 1♀1♂, 1–IV–1987; 1♀, 22–VIII–1987; 1♀, 23–VIII–1987; 31♀♀14♂♂, 28–XII–1987; 3♀♀, 4–I–1988; 6♀♀1♂, 16–VIII–1988; 1♂, 19–VIII–1988.

Distribution. Japan (Iriomotejima Island), Australia (KOCH, 1871), New Guinea (CHRYSANTHUS, 1961), India (TIKADER, 1982), Vietnam (GRASSHOFF, 1970b).

Remarks. *Larinia phthisica* seems very closely related to *L. chloris*. GRASSHOFF (1970b) described that these two species were indistinguishable by the structure of male palpal organ, but could be separated by some characters as follows: 1) the shape of epigynal scape, 2) general appearance (body L, carapace L/W, leg I L/carapace L, Tib I DM/L), 3) marking on dorsum of abdomen (*L. chloris* has folium but *L. phthisica* not), 4) number of prolateral spines on the first leg's femur (*L. chloris* has one and *L. phthisica* has two), though it frequently varies. However, he noted that the specimens



Figs. 15-21 *Larinia phthisica* (L. KOCH, 1871).—15. Cephalothorax and abdomen of female, dorsal view. 16. Same, ventral view. 17. Epigynum with scape. 18. Same without scape. 19. Female genitalia, posterior view. 20. Male palp, ventral view. 21. Same, prolateral view. (Scales: 0.2 mm.)

from Ceylon have the characters of both *L. chloris* (epigynal scape and number of spines) and *L. phthisica* (general appearance and absence of folium). These specimens were conditionally identified by him with *L. chloris*, on the basis of the importance of the shape of epigynal scape, and the necessity of the examination of further materials was suggested to solve the relationship of these two species. As MARUSIK (1986) mentioned, if the females of these species are distinguishable by the shape of epigynal scape, it seems quite sufficient for their discrimination. TIKADER (1982) illustrated the female internal genitalia of both the species based on the specimens confirmed by LEVI.

The general appearance of the specimens from Iriomotejima Island (see description) are intermediate between both the species, but much more similar to that of *L. chloris*. The result of examination in the number of prolateral spines on the first leg's femur is as follows: of 88♀♀, 66♀♀ with one spine on both the right and left legs, 2♀♀ with two spines on both the legs, 8♀♀ with one spine on one leg and two on the other leg, 6♀♀ with one on one leg and none on the other leg; of 38♂♂, 37♂♂ with one spine on both the legs, 1♂ with one spine on one leg and two spines on the other leg. In all the specimens, dorsum of abdomen lacks folium, and the shape of epigynal scape and the structure of internal genitalia agree with *L. phthisica*. The structure of the genital organ is recognized as most important among these characters in this case. Thus, the spider from Japan is identified with *L. phthisica*.

***Larinia onoi* n. sp.**

[Japanese name: Muneguro-koganegumodamashi]

(Fig. 22-27)

Description. Measurement. Body L ♀ 4.45-8.10 mm, ♂ 4.38-5.00 mm; Carapace L ♀ 2.00-2.46 mm, ♂ 2.19-2.28 mm, W ♀ 1.28-1.58 mm, ♂ 1.40-1.60 mm; Abdomen L ♀ 2.80-5.90 mm, ♂ 2.60-2.97 mm, W ♀ 1.44-2.43 mm, ♂ 1.23-1.50 mm. L of legs of the holotype ♀ and paratype 1♂ as shown in Table 4.

Carapace L/W ♀ 1.56-1.65, ♂ 1.42-1.56, AME-AME/AME ♀ 1.05-1.20, ♂ 1.06-1.26, PME-PME/PME ♀ 0.29-0.46, ♂ 0.29-0.50, ALE-PLE/ALE ♀ 0.15-0.33, ♂ 0.25-

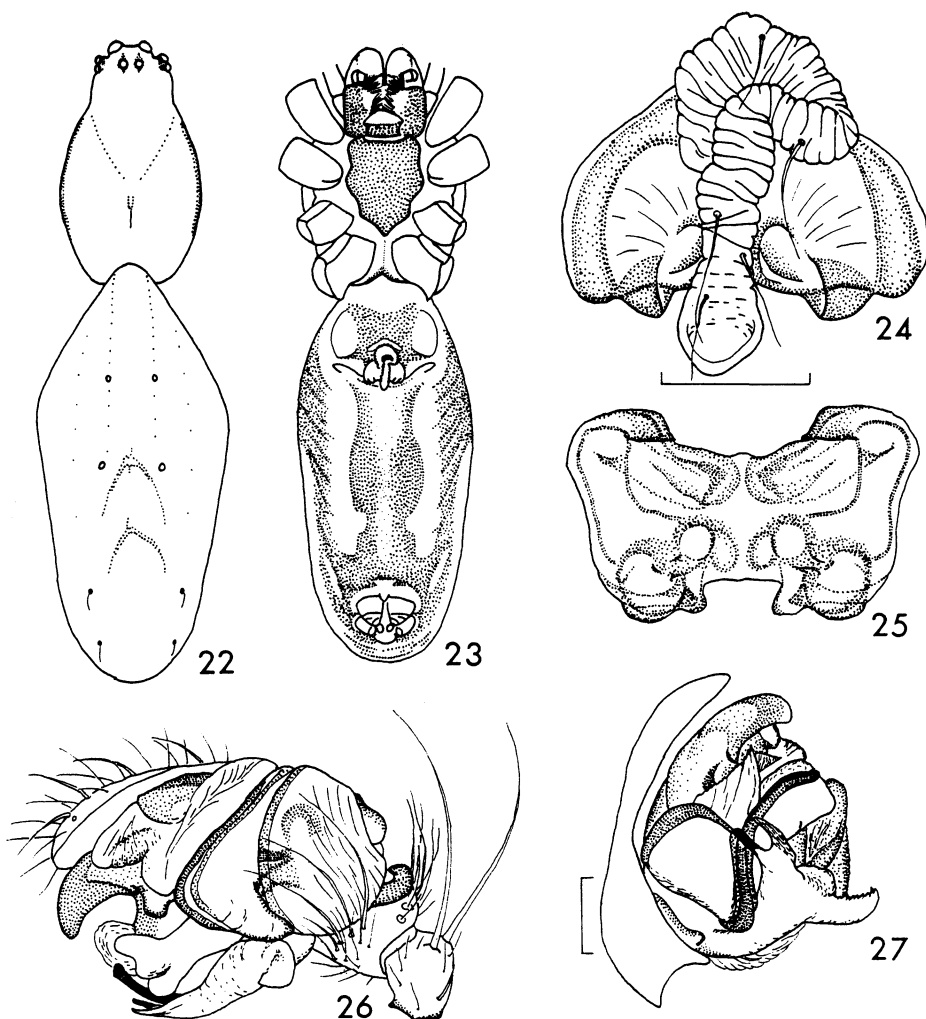
**Table 4** Measurements on leg segments of *L. onoi* n. sp. (in mm; ♀/♂).

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	1.08/1.08	3.68/4.45	3.12/3.15	1.32/1.20	2.92/2.93	12.12/12.80
II	0.88/0.75	2.73/3.30	2.50/2.73	1.32/1.03	2.67/2.67	10.10/10.48
III	0.62/0.60	1.22/1.24	1.08/1.13	0.70/0.62	1.78/1.73	5.40/ 5.33
IV	0.73/0.70	2.60/2.67	2.25/2.15	0.98/0.83	2.67/2.63	9.23/ 8.98

0.42, MOA L/W ♀ 0.85–0.90, ♂ 0.89–0.94, MOAWA/WP ♀ 1.60–1.70, ♂ 1.73–1.91, clypeus/AME ♀ 0.40–0.72, ♂ 0.53–0.67. Chelicera with 4 promarginal and 3–4 retro-marginal teeth. Labium L/W ♀ 0.70–0.80, ♂ 0.80–0.84, sternum L/W ♀ 1.33–1.44, ♂ 1.46–1.48. Tibia I DM/L ♀ 0.08–0.09, ♂ 0.06–0.07, leg I L/carapace L ♀ 4.79–4.95, ♂ 5.14–5.63.

Male palp (Figs. 26–27). Terminal apophysis wide and short.

Abdomen L/W ♀ 1.94–2.58, ♂ 1.98–2.11.



**Figs. 22–27** *Larinia onoi* n. sp.—22. Cephalothorax and abdomen of female, dorsal view. 23. Same, ventral view. 24. Epigynum. 25. Female genitalia, posterior view. 26. Male palp, ventral view. 27. Same, prolateral view. (Scales: 0.2 mm.)

Female genitalia (Figs. 24-25). Scape of epigynum curved and wrinkled. Intromittent canal incurved in posterior view.

Coloration and markings. ♀ ♂: Carapace yellow, sometimes with a pale gray line between PME and median fovea, thoracic region with gray border; chelicerae yellow; maxillae dark brown, inner margin white; labium dark gray, anterior margin white. Sternum dark gray. Dorsum of abdomen whitish yellow, with pale brown bands and three pairs of small black spots. Venter of abdomen dark gray, with longitudinal yellow markings.

Type series. Holotype: ♀, Iriomotejima Island, Yaeyama Islands, Okinawa Pref., 2-I-1989, A. TANIKAWA leg. Paratypes: same locality and collector as for the holotype, 1 ♂, 28-XII-1986; 1 ♀, 23-VIII-1987; 2 ♀ ♀, 27-XII-1987; 1 ♂, 27-XII-1987 (subadult), 9-II-1988 (adult after breeding); 1 ♀, 31-III-1988.

Distribution. Japan (Iriomotejima Island).

Remarks. This species is distinguished from other species of *Larinia* by following points: (1) sternum is uniformly dark gray; (2) scape of female epigynum is curved and wrinkled.

Etymology. Specific name is dedicated to Dr. Hirotsugu ONO.

*Larinia sekiguchii* n. sp.

[Japanese name: Sekiguchi-koganegumodamashi]

(Figs. 28-33)

Description. Measurement. Body L ♀ 8.10-9.25 mm, ♂ 6.40-7.10 mm; Carapace L ♀ 3.16-3.40 mm, ♂ 2.83-3.30 mm, W ♀ 2.04-2.32 mm, ♂ 1.97-2.20 mm; Abdomen L ♀ 5.20-6.90 mm, ♂ 3.84-4.33 mm, W ♀ 2.33-3.00 mm, ♂ 1.76-1.95 mm; L of legs of the holotype ♀ and paratype 1 ♂ as show in Table 5.

**Table 5** Measurements on leg segments of *L. sekiguchii* n. sp. (in mm; ♀/♂).

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	1.33/1.25	3.93/3.98	3.50/3.30	1.90/1.80	3.50/3.45	14.16/13.78
II	1.18/1.15	3.40/3.48	3.23/3.10	1.78/1.63	3.28/3.28	12.87/12.64
III	0.83/0.77	1.65/1.42	1.49/1.43	1.05/0.93	2.33/2.28	7.35/ 6.83
IV	0.88/0.85	3.00/2.85	2.84/2.60	1.46/1.30	3.24/3.05	11.42/10.65

Carapace L/W ♀ 1.40-1.55, ♂ 1.44-1.53, AME-AME/AME ♀ 1.44-2.00, ♂ 1.35-1.65, PME-PME/PME ♀ 0.31-0.46, ♂ 0.19-0.29, ALE-PLE/ALE ♀ 0.36, ♂ 0.33-0.43, MOA L/W ♀ 0.81-0.90, ♂ 0.70-0.87, MOA WA/WP ♀ 1.82-2.10, ♂ 1.88-2.26, clypeus/AME ♀ 0.78-1.13, ♂ 0.90-1.06. Chelicera with 3-4 teeth on both margin. Labium

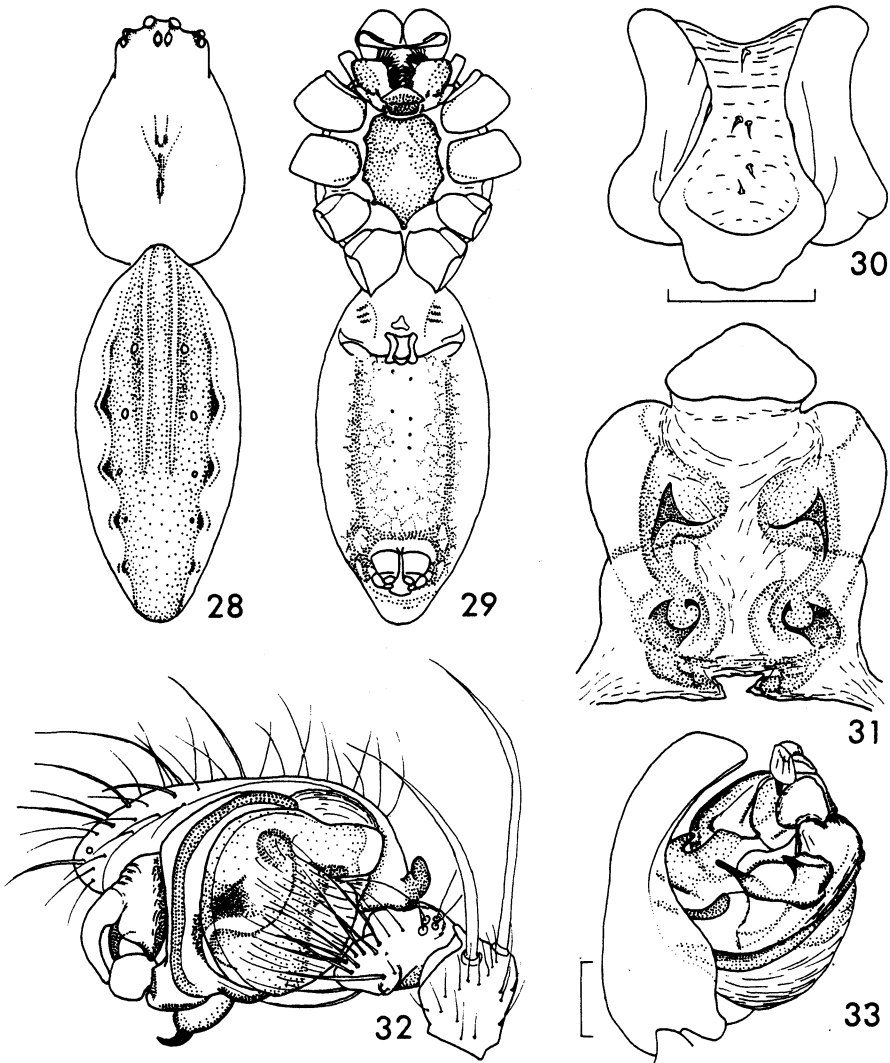
Japanese Spiders of the Genus *Larinia*

L/W ♀ 0.69–0.85, ♂ 0.88–0.96, sternum L/W ♀ 1.49–1.56, ♂ 1.53–1.61. Tibia I DM/L ♀ 0.11, ♂ 0.09–0.10, leg I L/carapace L ♀ 3.95–4.16, ♂ 3.08–4.33.

Male palp (Figs. 32–33). Terminal apophysis flattened and semitransparent.

Abdomen L/W ♀ 2.11–2.30, ♂ 2.16–2.36.

Female genitalia (Figs. 30–31). Scape of epigynum distally widened, with short hairs. Intromittent canal incurved in posterior view.



Figs. 28–33 *Larinia sekiguchii* n. sp.—28. Cephalothorax and abdomen of female, dorsal view. 29. Same, ventral view. 30. Epigynum. 31. Female genitalia, posterior view. 32. Male palp, ventral view. 33. Same, prolateral view. (Scales: 0.2 mm.)

Coloration and markings. ♀ ♂: Carapace yellow, with a pair of lines that fusing between PME and median fovea, anterior half of these lines is often indistinct. Chelicera yellow; maxillae yellow to yellowish brown, inner margin white; labium brown, anterior margin white. Sternum grayish brown, yellowish at the middle. Dorsum of abdomen yellow, with a brown median line and two brown bands fusing at posterior half of the abdomen, the margin of this band forming a folium. Venter of abdomen with a broad white band between epigynum and spinnerets, the band bordered by narrow brown lines.

Type series. Holotype: ♀, Izunuma, Hazama-chô, Tome-gun, Miyagi Pref., 18-V-1986, A. TANIKAWA leg. Paratypes: same locality and collector as for the holotype, 3♀ 5♂ ♂, 1-VI-1986; 1♀, 20-VIII-1986.

Other specimens examined. Same locality and collector as type series, 2♀ 1♂, 7-VII-1985; 9♀ 1♂, 18-V-1986; 1♂, 15-VI-1986.

Distribution. Japan (Miyagi Pref.).

Remarks. This species resembles *L. bossae* MARUSIK, 1986, described from USSR Far East, but is distinguished from the latter by the shape of epigynum in ventral view and intromittent canal of female genitalia.

Etymology. Specific name is dedicated to Dr. Koichi SEKIGUCHI, Saitama, who led me to arachnology.

### *Larinia jeskovi* MARUSIK, 1986

[Japanese name: Kita-koganegumodamashi]

(Fig. 34-40)

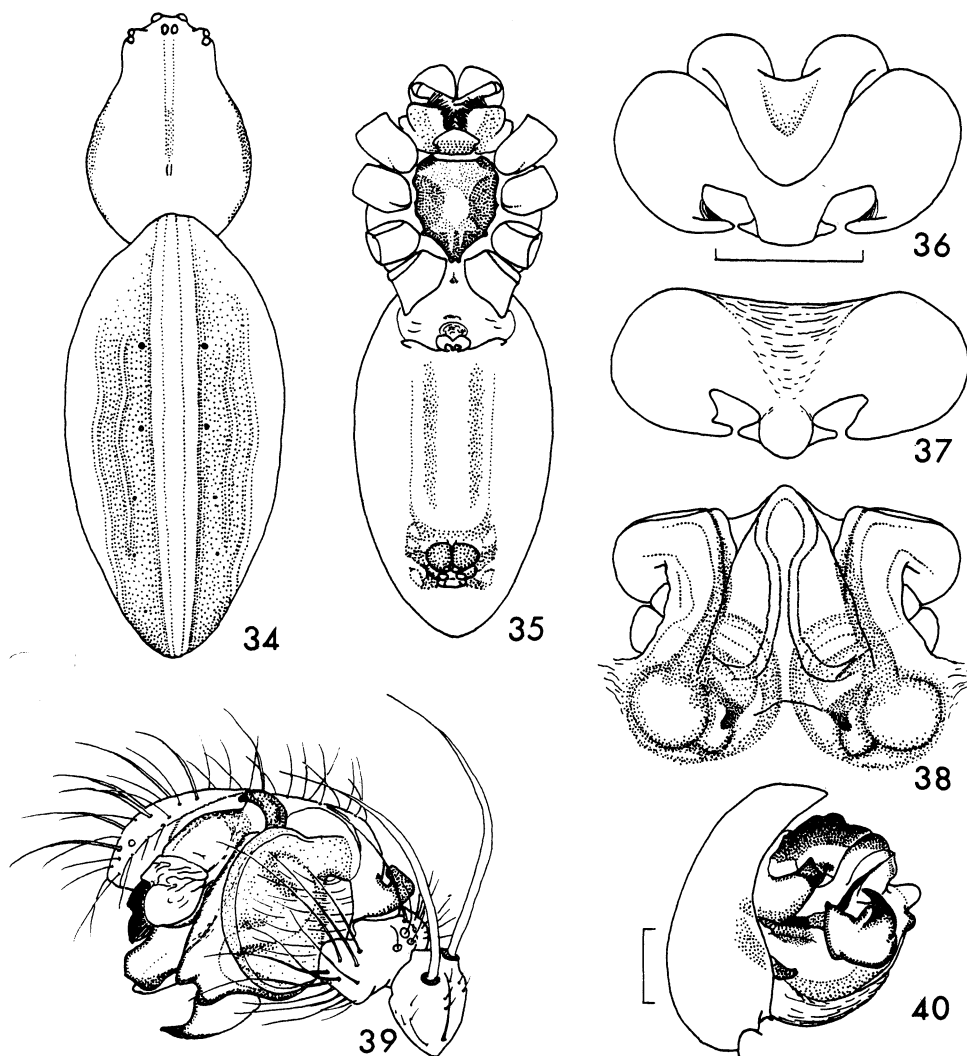
*Larinia jeskovi* MARUSIK, 1986, Spixiana, 9: 754-254, figs. 30-34.—PLATNICK, 1989, Advances in Spider Taxonomy, p. 339.

Description. Measurement. Body L ♀ 8.50-8.70 mm, ♂ 5.13-6.00 mm; carapace L ♀ 3.08-3.44 mm, ♂ 2.43-2.67 mm, W ♀ 2.23-2.48 mm, ♂ 1.72-1.87 mm; abdomen L ♀ 5.20-5.93 mm, ♀ 2.93-3.20 mm, W ♀ 2.53-2.87 mm, ♂ 1.50-1.63 mm; L of legs of 1♀ 1♂ from Hokkaido as shown in Table 6.

**Table 6** Measurements on leg segments of *L. jeskovi* MARUSIK (in mm; ♀/♂).

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	1.08/1.20	3.08/3.95	2.86/3.28	1.66/1.48	3.00/3.25	11.68/13.16
II	0.96/1.10	2.68/3.40	2.60/2.86	1.56/1.40	2.90/3.16	10.70/11.92
III	0.69/0.55	1.34/1.49	1.25/1.33	0.91/0.81	1.80/2.06	5.99/ 6.24
IV	0.76/0.80	2.46/2.74	2.36/2.56	1.30/1.10	2.76/2.86	9.64/10.06

Carapace L/W ♀ 1.38-1.45, ♂ 1.41-1.43, AME-AME/AME ♀ 1.78-2.06, ♂ 1.22-1.33, PME-PME/PME ♀ 0.43-0.50, ♂ 0.21-0.38, ALE-PLE/ALE ♀ 0.50-0.62, ♂ 0.31-0.50, MOA L/W ♀ 0.81-0.83, ♂ 0.81-0.93, MOA WA/WP ♀ 1.86-1.89, ♂ 1.66-1.75, clypeus/AME ♀ 1.06-1.25, ♂ 0.67-0.78. Chelicera with 4 promarginal and 3 retro-marginal teeth. Labium L/W ♀ 0.72-0.77, ♂ 0.70-0.83, sternum L/W ♀ 1.41-1.48, ♂ 1.39-1.46. Tibia I DM/L ♀ 0.11-0.13, ♂ 0.07-0.09, leg I L/carapace L ♀ 3.71-3.85,



Figs. 34-40 *Larinia jeskovi* MARUSIK, 1986.—34. Cephalothorax and abdomen of female, dorsal view. 35. Same, ventral view. 36. Epigynum with scape. 37. Epigynum without scape. 38. Female genitalia, posterior view. 39. Male palp, ventral view. 40. Same, prolateral view. (Scales: 0.2 mm.)

♂ 4.72-5.06.

Male palp (Figs. 39-40). Terminal apophysis flattened and short. Stipes apophysis truncated.

Abdomen L/W ♀ 2.05-2.07, ♂ 1.87-2.02.

Female genitalia (Figs. 36-38). Epigynal scape short and triangular. Intromittent canal excurved in posterior view.

Coloration and markings. ♀ ♂: Carapace yellowish brown, with a pair of lines fusing into a single line between PME and median fovea, thoracic region with gray border. Chelicerae yellowish brown; maxillae brown, inner margin white; labium dark gray, anterior margin white. Sternum dark gray, with yellowish markings. Legs yellow. Dorsum of abdomen pale yellow, with a white median band with a pair of brown lines, and a pair of brown bands. Venter of abdomen yellow, with a white band between epigynum and spinnerets, and a pair of brown bands.

Specimens examined. 1♀2♂♂, Kiritappu, Hokkaido, 16-IX-1980, K. KUMADA leg.; 1♀5♂♂, Syunkunitai, Hokkaido, 15-VIII-1986, A. TANIKAWA leg.; 1♀, same locality, 15-VIII-1986 (subadult), 8-IX-1986 (adult after breeding), A, TANIKAWA leg.

Distribution. Japan (Hokkaido), USSR Far East (basin of the Amur river) (MARUSIK, 1986).

### Acknowledgements

I wish to express my hearty thanks to Dr. Hirotsugu ONO, National Science Museum (Nat. Hist.), Tokyo, for his constant guidance and for revising the manuscript of this paper. My thanks are also due to Mr. Ken-ichi KUMADA for offering specimens used in this study, and Mr. Norihisa TANAKA for offering specimens and copies of literatures.

### 摘 要

現在まで、日本産の *Larinia* 属としては、コガネグモダマン *L. argiopiformis* BÖSENBERG et STRAND のみが知られていたが、新たにネッタイコガネグモダマン (新称) *L. fusiformis* (THORELL), ミナミコガネグモダマン (新称) *L. phthisica* (L. KOCH), キタコガネグモダマン (新称) *L. jeskovi* MARUSIK の3種の分布を確認し、ムネグロコガネグモダマン (新称) *L. onoi* とセキグチコガネグモダマン (新称) *L. sekiguchii* の2新種を記載した。これにより日本産の *Larinia* 属は6種となった。

### References

- BONNET, P., 1957. Bibliographia Araneorum 2(3): 1927-3026.  
BÖSENBERG, W. & E. STRAND, 1906. Japanische Spinnen. *Abh. senckenb. naturf. Ges.*, 30: 93-422, pls. 3-16.  
BRIGNOLI, P.M., 1983. A catalogue of the Araneae described between 1940 and 1981. 755 pp. Manchester University Press.  
CHRYSANTHUS, F., 1961. Spiders from New Guinea IV. *Nova Guinea, Zool. Leiden*, (10): 195-214.

# Japanese Spiders of the Genus *Larinia*

- GRASSHOFF, M., 1970a. Die Gattung *Kilima* n. gen. (Arachnida: Araneae: Araneidae). *Senckenbergiana biol.*, 51: 119-128.
- 1970b. Die Tribus Mangorini. I. Gattungen *Eustara*, *Larinia* s. str., *Larinopa* n. gen. (Arachnida: Araneae: Araneidae). *Senckenbergiana biol.*, 51: 209-234.
- 1970c. Die Tribus Mangorini. II. Die neuen Gattungen *Siwa*, *Paralarinia*, *Faradja*, *Mahembea* und *Lariniaria* (Arachnida: Araneae: Araneidae). *Senckenbergiana biol.*, 51: 409-423.
- 1971. Die Tribus Mangorini. III. Die Gattung *Drexelia* McCook (Arachnida: Araneae: Araneidae). *Senckenbergiana biol.*, 52: 81-95.
- KOCH, L., 1871. Die Arachniden Australiens, 1. pp. 1-144 Nürnberg.
- LEVI, H. W., 1975. The American orb-weaver genera *Larinia*, *Cercidia* and *Mangora* north of Mexico (Araneae, Araneidae). *Bull. Mus. comp. Zool.*, 147: 101-135.
- LEVY, G., 1986. Spiders of the genera *Siwa*, *Larinia*, *Lipocrea* and *Drexelia* (Araneae: Araneidae) from Israel. *Bull. Br. arachnol. Soc.* 7: 1-10.
- MARUSIK, Y. M., 1986. The orb-weaver genus *Larinia* SIMON in the USSR (Aranei, Araneidae). *Spixiana*, 9: 245-254.
- PAIK, K. Y. & J. P. KIM, 1985. A list of Korean spiders (revised in 1985). *Korean Arachnol.*, 1: 51-82.
- PLATNICK, N. I., 1989. Advances in Spider Taxonomy, 1981-1987. 673 pp. Manchester University Press.
- ROEWER, C. F., 1942. Katalog der Araneae von 1758 bis 1940. Bd. 1. 1040 pp. Natura, Bremen.
- SAITO, S., 1959. The Spider Book Illustrated in Colours. 194 pp., 28pls. Hokuryukan, Tokyo. (In Japanese)
- SIMON, E., 1874. Les Arachnides de France, I. 272 pp, 3 pls. Roret, Paris.
- TIKADER, B. K. & B. BISWAS, 1981. Spider fauna of Calcutta and vicinity: Part I. *Rec. zool. Surv. India, Occ. Pap.*, 30: 1-149.
- TIKADER, B. K., 1982. The fauna of India, Spiders, Vol. II. 536 pp. Zoological Survey of India, Calcutta.
- YAGINUMA, T., 1986. Spiders of Japan in Colour, (n. ed.). 305 pp., 64 pls. Hoikusya, Osaka. (In Japanese).
- ZHU, X. D., 1983. A list of Chinese spiders (revised in 1983). *J. Bethune med. Univ.*, (9) (spec. no.): 1-130. (In Chinese)